

**In the Claims:**

1. (Currently Amended) A method of identifying compounds that interact with a target molecule comprising the steps of:
- a) mixing a substrate ~~or product, product or ligand~~ of a target with at least one chemical compounds;
  - b) generating a first spectrum that displays either a chemical shift in the first dimension or a chemical shifts in the other dimension of substrate ~~or product, product or ligand~~ in step a);
  - c) exposing substrate ~~or product, product or ligand~~ and mixture of chemical compounds in step a) to a target molecule for one or more incubation times;
  - d) generating a second spectrum that displays either a chemical shifts in the first dimension or a chemical shifts in the other dimension of substrate or product in step a) that has been exposed to the target molecule in step c) in the presence of one or mixture of chemical compounds in step a);
  - e) comparing said first spectrum and second spectrum after one or more said incubation times in step c) to determine at least one difference between said first spectrum and second spectrum, the differences observed along either or both chemical shift dimensions identifying the transformation of said substrate ~~or product~~ and classifying the presence of one or more chemical compounds ~~that are substrates, product or ligand~~ that interact with said target molecule.
2. (Original) The method of claim 1 wherein step a) further comprises a target that is a biomolecule.
3. (Original) The method of claim 1 wherein step a) further comprises a chemical compound that is in solution or attached to a solid substrate or matrix.
4. (Previously Presented) The method of claim 1 wherein step b) further comprises a first spectrum selected from the group consisting of a one-dimensional, two-dimensional and three-dimensional spectrum.
5. (Original) The method of claim 4 wherein said first spectrum displays a chemical shift in said first dimension selected from the group consisting of <sup>1</sup>H, <sup>3</sup>H, <sup>11</sup>B, <sup>13</sup>C, <sup>15</sup>N, <sup>19</sup>F, <sup>29</sup>S or <sup>31</sup>P chemical shift, and a chemical shift in said other dimension selected from the group consisting of <sup>1</sup>H, <sup>3</sup>H, <sup>11</sup>B, <sup>13</sup>C, <sup>15</sup>N, <sup>19</sup>F, <sup>29</sup>S or <sup>31</sup>P chemical shift.
6. (Original) The method of claim 1 wherein said exposing step of step c) further comprises a mixture comprising between 2 and 100 chemical compounds.
7. (Original) The method of claim 1 wherein said incubation times number between 1 and 20, 30, 40, 50 or greater.
8. (Original) The method of claim 1 wherein step d) said second spectrum displays a chemical shift in said first dimension selected from the group consisting of